

Claims

1. A battery pack equipped with a detachable rechargeable battery, to which charging solar cells (30) for collecting solar light and charging the rechargeable battery (20) to a battery voltage of a certain level, wherein:

5 a battery loading hole (16) is formed in one side of a battery housing (12) in a horizontal direction to allow the rechargeable battery (20) to be loaded therein; and the rechargeable battery (20) inserted through the battery loading hole (16) and loaded in the battery housing (12) is fastened by a battery fastener (24), and thus, is connected to power terminals (14) in a contact manner.

10 2. The battery pack as set forth in claim 1, wherein:

 the rechargeable battery (20) is integrated with a recharging circuit board (22), on which a recharging circuit is mounted on one portion of the rechargeable battery (20), is inserted into the battery loading hole (16), and thus, is connected to the power terminals (14) in a contact manner; or the rechargeable battery (20)
15 is inserted into the battery loading hole (16) of the battery housing (12) integrated with the recharging circuit board (22), and thus, is connected to the power terminals (14) in a contact manner.

 3. The battery pack as set forth in claim 1, wherein; when a Direct Current (DC) voltage from the charging solar cells (30) is compared with a reference
20 voltage by a Metal Oxide Semiconductor-Field Effect Transistor (MOS-FET) (33), and the DC voltage corresponds to the battery voltage, the recharging circuit of the recharging circuit board (22) stores and filters the DC voltage through an inductor (35) and a capacitor (36), rectified the DC voltage into a battery voltage through a rectifying diode (34), and thus, quickly charges the rechargeable battery
25 (20) with the DC voltage from the charging solar cells (30); and when the DC voltage from the charging solar cells (30) is oversupplied, the recharge circuit of the recharging circuit board (22) quickly charges the rechargeable battery (20)

while preventing overcharging using a Pulse-Width-Modulation (PWM) circuit (32).

4. The battery pack as set forth in claim 1, wherein the charging solar cells (30) for collecting the solar light is integrally formed on only an upper surface of the battery housing (12), or auxiliary solar cells (42) are additionally provided to be inserted into and drawn from the battery housing (12) in a horizontal direction.

5. The battery pack as set forth in claim 1 or 4, wherein light collecting projections of the charging solar cells (30) are formed to be protruded to enlarge a light collection area.

10 6. A portable electronic device adopting a battery pack equipped with a detachable rechargeable battery, wherein:

a battery loading hole (16) is formed in one side of a battery housing (12) in a horizontal direction to allow the rechargeable battery (20) to be inserted thereinto; and a battery pack (10), in which the rechargeable battery (20) inserted
15 into the battery housing (12) through the battery loading hole (16), and thus, loaded in the battery housing (12) is fastened by insertion and combination of a battery fastener (24), and thus, is connected to power terminals (14) in a contact manner, is mounted on a device body (40).

7. The portable electronic device as set forth in claim 6, wherein the
20 battery pack (10) is constructed to be integrated with a device body (40), or to be separated from the device body (40).

8. The portable electronic device as set forth in claim 6 or 7, wherein the device body (40) is a body of a portable communication device.